

Issue Briefing: Increase Volcanic Emissions, Kilauea Volcano, Hawaii

Prepared By:

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Purpose

To inform CDC, CCEHIP and NCEH/ATSDR leadership on actions taken by NCEH/ATSDR in response to increased volcanic emissions from Kilauea, Hawaii.

Public Health Concerns

The primary public health concerns:

- Sulfur dioxide (SO₂) emissions- Local hospitals, downwind of the volcano, have reported increased numbers of persons presenting with eye irritation and respiratory distress related to the volcanic emissions.
 - Ash and other particulates- There is a potential, with certain shifts in wind direction, for evacuation of surrounding areas.
 - Potential hazards to response workers
 - Evacuation plans for patients
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Current Situation

On March 12, 2008, a new vent opened up at the Kilauea Crater in Hawaii. Air monitoring at Kilauea Crater has been ongoing for several decades, and preliminary reports show the vent is sporadically releasing up to 10 times more sulfur dioxide.

EPA and the National Guard are assisting in monitoring and modeling the emissions. EPA recently conducted sampling activities and is planning to release an EPA emissions report around the end of June, 2008.

Current Response from Hawaii Department of Health

On April 1, 2001, the Hawaii State Department of Health submitted a request through the ATSDR's Division of Regional Operations (DRO), Region IX representative, to consult with experts from CDC/ATSDR on the health risks of volcanic emissions and appropriate actions/protective measures to take at the various levels.

Actions taken:

- Established emergency guidelines for sulfur dioxide consistent with Hawaii's established guidelines.
- On 5/1/08, initiated surveillance at local hospitals.
- On 5/23/08, created a revised case definition for sulfur dioxide exposure and requested NCEH/ATSDR review and edit for accuracy.
- On 5/23/08, provided initial surveillance data to NCEH/ATSDR for review and comment.

Current efforts:

- Preparing document on protective measures from VOG. Requested that NCEH/ATSDR review and comment once it is completed.
 - EPA is expected to forward an emissions report sometime around the end of June. HI DOH will forward it to NCEH/ATSDR as soon as it is received.
 - NCEH/ATSDR asked the State of Hawaii Department of Health to provide specifics regarding the type of assistance needed for the formal request for CDC assistance being prepared.
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**Current
Response
from CDC,
NCEH/ATSDR**

NCEH/ATSDR has taken the following actions:

- Conducted consultation conference calls on 4/1/08, 5/21/08, 6/4/08. An additional call is scheduled for 6/5/08. Participants on the calls included SMEs representing: CDC/ATSDR: ATSDR/DRO, ATSDR/DTEM, NCEH/EHHE, NCEH/ATSDR OTPER, COTPER/PMP, COTPER/DEO and the Hawaii State Department of Health (DOH) and the District Health Office.
- Generated two SITREPS (4/1/08 and 5/21/08) to summarize recommendations and public health actions being pursued by Hawaii DOH.
- Provided comments on current issues and materials being generated by the Hawaii DOH including:
 - Emergency guidelines for sulfur dioxide
 - Surveillance case definition for sulfur dioxide exposure
 - Evacuation planning,
 - Guidelines: Sheltering in place, Filtration and PPE
 - Risk communications messages for the public
- On 5/23/08, initial surveillance data was received from State of Hawaii and triaged to NCEH/ATSDR SME's for review and comment.

**Requests for
Assistance**

The State of Hawaii has indicated an interest in requesting on-site epidemiologic assistance from CDC/ATSDR. The state is preparing a formal request for CDC assistance through the Governor's office, and NCEH/ATSDR is assisting the state ensure the request clearly articulates specific duties and activities.

**NCEH/ATSDR
Points of
Contact**

The roles of the NCEH/ATSDR Divisions and Offices are as follows:

- Overall Coordination – OTPER
- SO₂ issues and other related chemical components – ATSDR/DTEM
- Air quality Issues (e.g., particulates, incidence of asthma, etc.) – NCEH/EHHE
- Health and risk communications issues – OTPER to triage

**Supplemental
Information:
NCEH/ATSDR
Funded
Projects**

Currently, NCEH/ATSDR funds the Hawaii Department of Health for the following projects:

- ***Volcanic Emissions:*** Since 1996 CDC has funded the Hawaii Department of Health (HDOH) to explore the effects of volcanic air pollution ("vog") on cardiopulmonary health with community researchers, volcanologist, environmental health scientists, HDOH staff, and residents of the Big Island of Hawaii. This project explores the hypothesis that adults who inhale volcano-derived particulate matter, SO₂, or acid aerosols are at greater risk of cardiopulmonary effects.
- ***Childhood Rural Asthma Project:*** Since 2004, CDC has provided assistance to HDOH for the Childhood Rural Asthma Project. The purpose of the program is to build the capacity of community health centers to effectively identify, treat, and educate pediatric asthma sufferers and their families located on islands in the State of Hawaii. This project focuses on improving the health, quality of life, and functional status of Hawaii's citizens living in medically-underserved communities served by the community health centers.